P⊛RTAL

USPTO

Search: ⊙ The ACM Digital Library   ○ The Guide

substrate<sentence>coupling and noise and model* and inver   **SEARCH**

THE ACM DIGITAL LIBRARY

¶< Feedback Report a problem Satisfaction

Terms used
substrate **sentence** **coupling** and **noise** and **model** and **inverse** **sentence** **matrix** and **scalable** **sentence** **para**

Sort results by relevance ▽

Display results expanded form ▽

❧ Save results to a Binder
[?] Search Tips
☐ Open results in a new window

Try an Advanced Search
Try this search in The ACM G

Results 1 - 20 of 200   Result page: **1** 2 3 4 5 6 7 8 9 10   next
Best 200 shown   Relevance :

1 Analysis of Noise Avoidance Techniques in DSM Interconnects Using a Complete Crossta Model
M. Becer, V. Zolotov, D. Blaauw, R. Panda, I. Hajj
March 2002 **Proceedings of the conference on Design, automation and test in Europe**
Publisher: IEEE Computer Society
Full text available: 🔲 pdf(277.35 KB) 🗐   Additional Information: full citation, abstract
Publisher Site

> Noise estimation and avoidance are becoming critical,must have' capabilities in today's high perf
> IC design.An accurate yet efficient crosstalk noise model whichcontains as many driver/intercon
> parameters as possible,is neccesary for any sensitivity based noise avoidanceapproach. In this p
> present a complete analyticalcrosstalk noise model which incorporates all physical propertiesincl
> victim and aggressor drivers, distributed RCcharacteristics of interconnects and coupli ...

2 Improved crosstalk modeling for noise constrained interconnect optimization
Jason Cong, David Zhigang Pan, Prasanna V. Srinivas
January 2001 **Proceedings of the 2001 conference on Asia South Pacific design automation**
Publisher: ACM Press
Full text available: 🔲 pdf(158.23 KB)   Additional Information: full citation, abstract, references, citings, index terr

> This paper presents a much improved, highly accurate yet efficient crosstalk noise model, the 2-
> model, and applies it to noise-constrained interconnect optimizations. Compared with previous c
> noise models of similar complexity, our 2-pie model takes into consideration many key paramet€
> as coupling locations (near-driver or near-receiver), and the coarse distributed RC characteristic
> victim net. Thus, it is very accurate (less than 6% error on average compared with H ...

3 Driver modeling and alignment for worst-case delay noise
Supamas Sirichotiyakul, David Blaauw, Chanhee Oh, Rafi Levy, Vladimir Zolotov, Jingyan Zuo
June 2001 **Proceedings of the 38th conference on Design automation**
Publisher: ACM Press
Full text available: 🔲 pdf(895.48 KB)   Additional Information: full citation, abstract, references, citings, index terr

> In this paper, we present a new approach to model the impact of cross-coupling noise on interc
> delay. We introduce a new linear driver model that accurately models the noise pulse induced or
> switching signal net due to cross coupling capacitance. The proposed model effectively captures
> linear behavior of the victim driver gate during the transition and has an average error below 8%
> the traditional approach using a Thevenin model incurs an average error of 48% ...

4 Crosstalk noise analysis: A simplified transmission-line based crosstalk noise model for on RLC wiring

Kanak Agarwal, Dennis Sylvester, David Blaauw

January 2004 **Proceedings of the 2004 conference on Asia South Pacific design automation electronic design and solution fair ASP-DAC '04 , Proceedings of the 2004 con on Asia South Pacific design automation: electronic design and solution fair / '04**

Publisher: IEEE Press , IEEE Press

Full text available: pdf(232.14 KB)   Additional Information: full citation, abstract, references
Publisher Site

> In this paper, we present a new RLC crosstalk noise model that combines simplicity, accuracy, a generality. The new model is based on transmission line theory and is applicable to asymmetric line configurations. The results show that the model captures both the waveform shape and peal accurately (average error in peak noise was 6.5%). A key feature of the new model is that its de and form enables physical insight into the dependency of total coupling noise on relevant ...

5 Efficient crosstalk noise modeling using aggressor and tree reductions

Li Ding, David Blaauw, Pinaki Mazumder

November 2002 **Proceedings of the 2002 IEEE/ACM international conference on Computer-. design**

Publisher: ACM Press

Full text available: pdf(139.91 KB)   Additional Information: full citation, abstract, references, index terms

> This paper describes a fast method to estimate crosstalk noise in the presence of multiple aggre: for use in physical design automation tools. Since noise estimation is often part of the innerloop optimization algorithms, very efficient closed-form solutions are needed. Previous approaches ha typically used simple lumped 3--4 node circuit templates. One aggressor net is modeled at a tim assuming that the coupling capacitances to all quiet aggressor nets are grounded. They also mo

6 Poster session 1: Noise aware behavioral modeling of the E-Δ fractional-N frequency synth

Lei Yang, Cherry Wakayama, C.-J. Richard Shi

April 2005   **Proceedings of the 15th ACM Great Lakes symposium on VLSI**

Publisher: ACM Press

Full text available: pdf(259.26 KB)   Additional Information: full citation, abstract, references, index terms

> This paper presents the behavioral model of a E-Δ fractional-N frequency synthesizer in terms of noise sources and non-ideal effects. To accurately predict the phase noise of the synthesizer, dif jitter noise sources such as phase modulation (PM) noise in phase-frequency detector and divide frequency modulation (FM) noise in VCO are properly depicted. The E-Δ modulator, with its divic dithered and quantization noise dynamically injected to the PLL, i ...

> **Keywords**: PLL, frequency synthesizer, jitter noise, phase noise

7 Substrate Noise Analysis with Compact Digital Noise Injection and Substrate Models

Makoto Nagata, Youichi Nishimori, Takashi Morie, Atsushi Iwata, Yoshitaka Murasaka

January 2002 **Proceedings of the 2002 conference on Asia South Pacific design automation Design**

Publisher: IEEE Computer Society

Full text available: pdf(512.69 KB)   Additional Information: full citation, abstract
Publisher Site

> This paper presents a substrate noise analysis methodology that employs chip-level substrate m based on F-matrix computation and digital substrate-noise injection modeling with a time-series

parasitic capacitance model for time-domain power-supply current estimation.System-level simu models generated accordingly to the methodology provide reliable substrate noise waveforms.Si waveforms for practical digital circuits on a 0.6-μm CMOS 4.5-mm square chip are well consist .

8 Noise-tolerant learning, the parity problem, and the statistical query model

Avrim Blum, Adam Kalai, Hal Wasserman
July 2003 **Journal of the ACM (JACM)**, Volume 50 Issue 4
Publisher: ACM Press
Full text available: pdf(132.90 KB)   Additional Information: full citation, abstract, references, index terms

We describe a slightly subexponential time algorithm for learning parity functions in the presenc random classification noise, a problem closely related to several cryptographic and coding proble algorithm runs in polynomial time for the case of parity functions that depend on only the first O log n) bits of input, which provides the first known instance of an efficient noise-tolerant algorith concept class that is not learnable in the Statistical ...

Keywords: Computational learning theory, machine learning, statistical queries

9 A noise model on learning sets of strings

Yasubumi Sakakibara, Rani Siromoney
July 1992 **Proceedings of the fifth annual workshop on Computational learning theory**
Publisher: ACM Press
Full text available: pdf(714.91 KB)   Additional Information: full citation, abstract, references, citings, index terr

In this paper, we introduce a new noise model on learning sets of strings in the framework of PA and consider the effect of the noise on learning. The instance domain is the set &Sgr;n of string: finite alphabet &Sgr;, and the examples are corrupted by purely random errors affecting only th instances (and not the labels). We consider three types of errors on instances, called EDIT opera errors. EDIT operations cons ...

10 Modeling and Evaluation of Substrate Noise Induced by Interconnects

Ferran Martorell, Diego Mateo, Xavier Aragones
March 2003 **Proceedings of the conference on Design, Automation and Test in Europe - Vol**
            DATE '03
Publisher: IEEE Computer Society
Full text available:
            pdf(263.32 KB)   Additional Information: full citation, abstract, index terms
            Publisher Site

Interconnects have deserved attention as a source of crosstalk to other interconnects, but have ignored as a source of substrate noise. In this paper, we evaluate the importance of interconnec substrate noise. A known interconnect and substrate model is validated by comparing simulatior experimental measurements. Based on the validated modeling approach, a complete study cons frequency, geometrical, load and shielding effects is presented. The importance of interc ...

11 Symbolic circuit-noise analysis and modeling with determinant decision diagrams

XiangDong Tan, C.-J. Richard Shi
January 2000 **Proceedings of the 2000 conference on Asia South Pacific design automation**
Publisher: ACM Press
Full text available: pdf(226.93 KB)   Additional Information: full citation, references

12 Accurate Estimating Simultaneous Switching Noises by Using Application Specific Device

L. Ding, P. Mazumder
March 2002 **Proceedings of the conference on Design, automation and test in Europe**

Publisher: IEEE Computer Society
Full text available: pdf(215.61 KB)
Publisher Site
Additional Information: full citation, abstract

In this paper, we study the simultaneous switching noiseproblem by using an application-specifi(
method.A simple yet accurate MOSFET model is proposed in orderto derive closed-form formula:
simultaneous switchingnoise voltage waveforms. We first derive a simple formulaassuming that
inductances are the only parasitics. Andthrough HSPICE simulation, we show that the new form(
accurate than previous results based on the sameassumption. We then study the effect of the p:

13 Crosstalk noise analysis: A non-iterative model for switching window computation with cro:
noise
Janet Meiling Wang, Omar Hafiz, Pinhong Chen
January 2004 **Proceedings of the 2004 conference on Asia South Pacific design automation
electronic design and solution fair ASP-DAC '04 , Proceedings of the 2004 co(
on Asia South Pacific design automation: electronic design and solution fair /
'04**
Publisher: IEEE Press , IEEE Press
Full text available: pdf(268.27 KB)
Publisher Site
Additional Information: full citation, abstract, references

Proper modeling of the switching windows leads to a better estimate of the noise induced delay '
The present paper proposes a new continous switching window model. This new model is combir
an ordering technique that avoids convergence and multiple solution issues in the fixed point ite
methods. Experimental results show that our new model can achieve 2-3x times speedup over tl
point iteration methods, and provide better simulation results than the discrete models an ...

14 Modeling Noise Transfer Characteristic of Dynamic Logic Gates
Li Ding, Pinaki Mazumder
March 2003 **Proceedings of the conference on Design, Automation and Test in Europe - Vo|
DATE '03**
Publisher: IEEE Computer Society
Full text available: pdf(118.99 KB)
Publisher Site
Additional Information: full citation, abstract, index terms

Dynamic noise analysis is recently gaining more attention as a definitive method to overcome gl.
deficiencies of static noise analysis. Exact dynamic noise analysis requires modeling of both inje(
and propagated noise. In this paper, we have developed a strategy to study the noise propagati(
problem. An efficient analytical formula has been derived to accurately model the noise wavefor(
characteristic of dynamic CMOS logic gates. Experiments have shown that the maximum err ...

15 Modeling for analog circuits: High-frequency noise in RF active CMOS mixers
Payam Heydari
January 2004 **Proceedings of the 2004 conference on Asia South Pacific design automation
electronic design and solution fair ASP-DAC '04 , Proceedings of the 2004 co(
on Asia South Pacific design automation: electronic design and solution fair /
'04**
Publisher: IEEE Press , IEEE Press
Full text available: pdf(188.90 KB)
Publisher Site
Additional Information: full citation, abstract, references

A new analytical model for high-frequency noise in RF active CMOS mixers such as single-balanc
double-balanced architectures is presnted. The analysis includes the contribution of non-white g;
induced noise at the output as well as the spot noise figure (NF) of the RF CMOS mixer, while ac
for the non-zero correlation between the gate-induced noise and the channel thermal noise. The

contribution of the RF transconductor as well as the switching pair on the output noise is di ...

16 Modeling crosstalk noise for deep submicron verification tools
P. Bazargan-Sabet, F. Ilponse
March 2001 **Proceedings of the conference on Design, automation and test in Europe**
Publisher: IEEE Press
Full text available: 📄 pdf(81.94 KB)   Additional Information: full citation, references, index terms

17 EM Wave Coupling Noise Modeling Based on Chebyshev Approximation and Exact Mome
Formulation
Baohua Wang, Pinaki Mazumder
March 2005 **Proceedings of the conference on Design, Automation and Test in Europe - Vol**
Publisher: IEEE Computer Society
Full text available: 📄 pdf(310.59 KB)   Additional Information: full citation, abstract

This paper presents a new mathematical approach to modeling EM wave coupling noise so that i
easily integrated into chip-level noise analysis tools. The new method employs Chebyshev appro
technique to model the distributed sources arising in the Telegrapher's equations due to EM wav
coupling. A uniform plane wave illumination metric is provided to determine the order of approxi
Closed-form formulas for the noise transfer functions' moments are derived. By utilizing the fo ..

18 Delay and noise modeling in the nanometer regime: Non-iterative switching window compu
delay-noise
Bhavana Thudi, David Blaauw
June 2003 **Proceedings of the 40th conference on Design automation**
Publisher: ACM Press
Full text available: 📄 pdf(138.38 KB)   Additional Information: full citation, abstract, references, citings, index terr

In this paper, we present an efficient method for computing switching windows in the presence (
noise. In static timing analysis, delay noise has traditionally been modeled using a simple switch
based noise model and the computation of switching windows is performed using an iterative alg
resulting in an overall run time of $O(n2)$, where n is the number of gates in the circuit. It has als
shown that the iterations converge to different solutions, depending on the initia ...

Keywords: cross-talk noise, superposition, switching window

19 Noise-tolerant learning, the parity problem, and the statistical query model
Avrim Blum, Adam Kalai, Hal Wasserman
May 2000 **Proceedings of the thirty-second annual ACM symposium on Theory of computi**
Publisher: ACM Press
Full text available: 📄 pdf(673.02 KB)   Additional Information: full citation, references, citings, index terms

20 Analog circuit design: Substrate noise modeling in early floorplanning of MS-SOCs
Grzegorz Blakiewicz, Marcin Jeske, Malgorzata Chrzanowska-Jeske, Jin S. Zhang
January 2005 **Proceedings of the 2005 conference on Asia South Pacific design automation**
DAC '05
Publisher: ACM Press
Full text available: 📄 pdf(498.14 KB)   Additional Information: full citation, abstract, references

We propose a frequency-dependent sensitivity model for analog blocks and a noise injection moι
digital blocks in application to early design planning of Mixed-Signal System-on-Chips (MS-SOCs
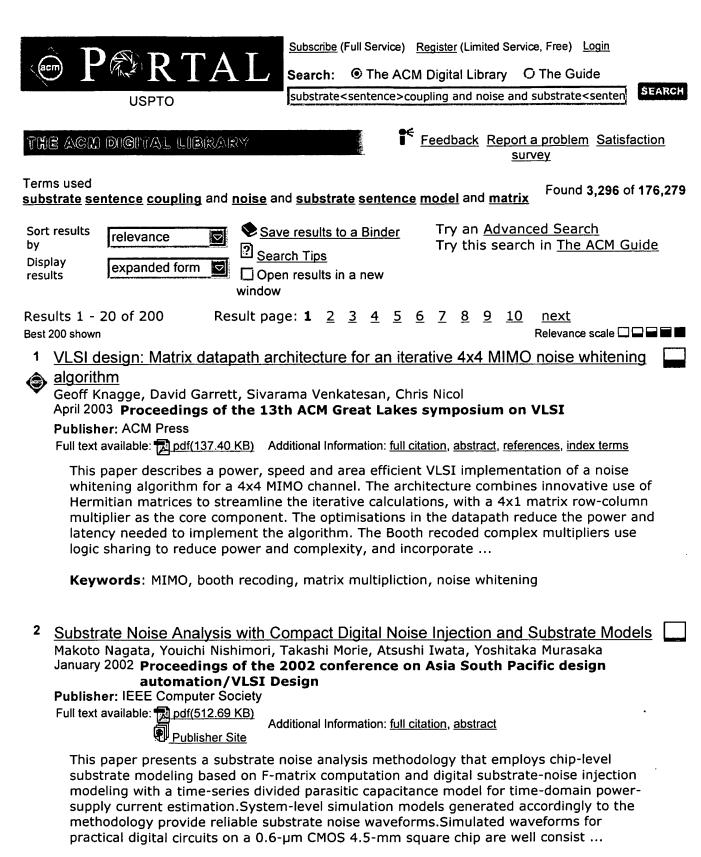
assume no precise layout information about IP cores is available. We also propose an empirical f for separation-dependent coupling between large-area noisy ports and small-area sensitive port: lightly-doped substrates that are preferred for mixed-signal circuits. The interaction between ...

Results 1 - 20 of 200   Result page: **1** 2 3 4 5 6 7 8 9 10   next

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2006 ACM, Inc.
Terms of Usage   Privacy Policy   Code of Ethics   Contact Us

Useful downloads: Adobe Acrobat   QuickTime   Windows Media Player   Real Player

P⊛RTAL

USPTO

THE ACM DIGITAL LIBRARY

Feedback Report a problem Satisfaction survey

Terms used
substrate sentence coupling and **noise** and **substrate sentence model** and **matrix**

Found **3,296** of **176,279**

Sort results by | relevance ▽
Display results | expanded form ▽

📎 Save results to a Binder
❓ Search Tips
☐ Open results in a new window

Try an Advanced Search
Try this search in The ACM Guide

Results 1 - 20 of 200
Best 200 shown

Result page: **1** 2 3 4 5 6 7 8 9 10   next

Relevance scale ☐ ▭ ▬ ▰ ■

1 VLSI design: Matrix datapath architecture for an iterative 4x4 MIMO noise whitening algorithm
Geoff Knagge, David Garrett, Sivarama Venkatesan, Chris Nicol
April 2003 **Proceedings of the 13th ACM Great Lakes symposium on VLSI**
Publisher: ACM Press
Full text available: 📄 pdf(137.40 KB)   Additional Information: full citation, abstract, references, index terms

This paper describes a power, speed and area efficient VLSI implementation of a noise whitening algorithm for a 4x4 MIMO channel. The architecture combines innovative use of Hermitian matrices to streamline the iterative calculations, with a 4x1 matrix row-column multiplier as the core component. The optimisations in the datapath reduce the power and latency needed to implement the algorithm. The Booth recoded complex multipliers use logic sharing to reduce power and complexity, and incorporate ...

Keywords: MIMO, booth recoding, matrix multipliction, noise whitening

2 Substrate Noise Analysis with Compact Digital Noise Injection and Substrate Models
Makoto Nagata, Youichi Nishimori, Takashi Morie, Atsushi Iwata, Yoshitaka Murasaka
January 2002 **Proceedings of the 2002 conference on Asia South Pacific design automation/VLSI Design**
Publisher: IEEE Computer Society
Full text available: 📄 pdf(512.69 KB)
📑 Publisher Site
Additional Information: full citation, abstract

This paper presents a substrate noise analysis methodology that employs chip-level substrate modeling based on F-matrix computation and digital substrate-noise injection modeling with a time-series divided parasitic capacitance model for time-domain power-supply current estimation.System-level simulation models generated accordingly to the methodology provide reliable substrate noise waveforms.Simulated waveforms for practical digital circuits on a 0.6-μm CMOS 4.5-mm square chip are well consist ...

3 Noise Analysis for Optical Fiber Communication Systems
Alper Demir
November 2003 **Proceedings of the 2003 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society

Full text available: 📄 pdf(311.17 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>index terms</u>

The optical fiber transmission links form the backbone of the communicationsinfrastructure. Almost all of voice and data (internet) traffic is routed throughterrestrial and submarine optical fiber links, connecting the world together. Invention of the optical amplifiers (OAs) and wavelength-division multiplexing(WDM) technology enabled very high capacity optical fiber communicationlinks that run for thousands of kilometers without any electronic repeaters, butat the same time brought many design ...

4   <u>Traffic engineering: An information-theoretic approach to traffic matrix estimation</u>   ▢
Yin Zhang, Matthew Roughan, Carsten Lund, David Donoho
August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications**
Publisher: ACM Press

Full text available: 📄 pdf(421.04 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Traffic matrices are required inputs for many IP network management tasks: for instance, capacity planning, traffic engineering and network reliability analysis. However, it is difficult to measure these matrices directly, and so there has been recent interest in inferring traffic matrices from link measurements and other more easily measured data. Typically, this inference problem is ill-posed, as it involves significantly more unknowns than data. Experience in many scientific and engineering f ...

Keywords: SNMP, information theory, minimum, mutual information, regularization, traffic engineering, traffic matrix estimation

5   <u>Phase noise in oscillators: DAEs and colored noise sources</u>   ▢
Alper Demir
November 1998 **Proceedings of the 1998 IEEE/ACM international conference on Computer-aided design**
Publisher: ACM Press
Full text available: 📄 pdf(869.85 KB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

6   <u>Global harmony: coupled noise analysis for full-chip RC interconnect networks</u>   ▢
K. L. Shepard, V. Narayanan, P. C. Elmendorf, Gutuan Zheng
November 1997 **Proceedings of the 1997 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society
Full text available: 📄 pdf(238.78 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>
📄 Publisher Site

Noise is becoming one of the most important metrics in the design of VLSI systems, certainly of comparable importance to area, timing, and power. In this paper, we describe Global Harmony, a methodology for the analysis of coupling noise in the global interconnect of large VLSI chips, being developed for the design of high-performance microprocessors. The architecture of Global Harmony involves a careful combination of static noise analysis, static timing analysis, and reduced-order modelling te ...

Keywords: noise, static timing analysis, interconnect

7   <u>Noise Macromodel for Radio Frequency Integrated Circuits</u>   ▢

Yang Xu, Xin Li, Peng Li, Lawrence Pileggi
March 2003 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 1 DATE '03**
Publisher: IEEE Computer Society
Full text available: pdf(216.67 KB)

Publisher Site

Additional Information: full citation, abstract, index terms

Noise performance is a critical analog and RF circuit design constraint, and can impact the selection of the IC system-level architecture. It is therefore imperative that some model of the noise is represented at the highest levels of abstraction during the design process. In this paper we propose a noise macromodel for analog circuits and demonstrate it by way of implementation in a system level simulator based on MATLAB. We also explain our process of macromodel extraction via reformulation of ...

8 Power and noise: Noise driven in-package decoupling capacitor optimization for power integrity
Jun Chen, Lei He
April 2006 **Proceedings of the 2006 international symposium on Physical design ISPD '06**
Publisher: ACM Press
Full text available: pdf(164.11 KB)   Additional Information: full citation, abstract, references, index terms

The existing decoupling capacitance optimization approaches meet constraints on input impedance for package. In this paper, we show that using impedance as constraints leads to large overdesign and then develop a noise driven optimization algorithm for decoupling capacitors in packages for power integrity. Our algorithm uses the simulated annealing algorithm to minimize the total cost of decoupling capacitors under the constraints of a worst case noise. The key enabler for efficient optimization ...

Keywords: IC package, decoupling capacitor, integrity, modeling, noise, power, power distribution system, resonance

9 Time-domain non-Monte Carlo noise simulation for nonlinear dynamic circuits with arbitrary excitations
Alper Demir, Edward W. Y. Liu, Alberto L. Sangiovanni-Vincentelli
November 1994 **Proceedings of the 1994 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society Press
Full text available: pdf(840.83 KB)   Additional Information: full citation, abstract, references, citings, index terms

A new, time-domain, non-Monte Carlo method for computer simulation of electrical noise in nonlinear dynamic circuits with arbitrary excitations is presented. This time-domain noise simulation method is based on the results from the theory of stochastic differential equations. The noise simulation method is general in the sense that any nonlinear dynamic circuit with any kind of exci ...

10 Session 9A: noise and performance issues in routing: A twisted-bundle layout structure for minimizing inductive coupling noise
Guoan Zhong, Cheng Kok Koh, Kaushik Roy
November 2000 **Proceedings of the 2000 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Press
Full text available: pdf(105.24 KB)   Additional Information: full citation, abstract, references, citings

In this paper, we propose a novel *twisted-bundle* layout structure for minimizing inductive

coupling noise. In this structure, we create several routing regions and re-order the routing of nets in each of these routing regions. The purpose is to create complementary and opposite current loops in the twisted-bundle layout structure, such that the magnetic fluxes arising from any signal net within a *twisted group* cancel each other in the current loop of a net of interest. The effectiv ...

11 <u>Session 6B: analog and RF simulation: Computing phase noise eigenfunctions directly from steady-state Jacobian matrices</u>
Alper Demir, David Long, Jaijeet Roychowdhury
November 2000 **Proceedings of the 2000 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Press
Full text available: <u>pdf(116.60 KB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>

The main effort in oscillator phase noise calculation lies in computing a vector function called the Perturbation Projection Vector (PPV). Current techniques for PPV calculation use time domain numerics to generate the system's monodromy matrix, followed by full or partial eigenanalysis. We present a superior method that finds the PPV using only a single linear solution of the oscillator's time- or frequency-domain steady-state Jacobian matrix. The new method is better suited for existing tools ...

12 <u>Inductance and substrate analysis: HSpeedEx: a high-speed extractor for substrate noise analysis in complex mixed signal SOC</u>
Adil Koukab, Catherine Dehollain, Michel Declercq
June 2002 **Proceedings of the 39th conference on Design automation**
Publisher: ACM Press

Full text available: <u>pdf(289.07 KB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

The unprecedented impact of noise coupling on Mixed-Signal Systems-On-a-Chip (MS-SOC) functionality, brings a new set of challenges for Electronics Design Automation (EDA) tool developers. In this paper, we propose a new approach which combines a thorough physical comprehension of the noise coupling effects with an improved Boundary-Element-Method (BEM) to accelerate the substrate model extraction and to avoid the dense matrix storage. The low computational efforts required, as well as speed and ...

Keywords: boundary-element-method, mixed-signal noise, noise, numerical analysis, substrate coupling, substrate noise, supply noise, switching circuits

13 <u>Analysis and optimization of substrate noise coupling in single-chip RF transceiver design</u>
Adil Koukab, Kaustav Banerjee, Michel Declercq
November 2002 **Proceedings of the 2002 IEEE/ACM international conference on Computer-aided design**
Publisher: ACM Press
Full text available: <u>pdf(462.15 KB)</u>   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>index terms</u>

The relentless move toward single chip integration of RF, analog and digital blocks results in significant noise coupling effects that can degrade performance and hence, should be controlled. In this paper, we propose a practical methodology that uses a suite of commercial tools in combination with a high-speed extractor based on an innovative semi-analytical method to deal with noise coupling problems, and enable RF designers to achieve a first silicon-success of their chips. The integration of ...

14
<u>Noise reduction in a statistical approach to text categorization</u>

Yiming Yang
July 1995 **Proceedings of the 18th annual international ACM SIGIR conference on Research and development in information retrieval**
Publisher: ACM Press
Full text available: pdf(895.10 KB)   Additional Information: full citation, references, citings, index terms

15 Circuit noise evaluation by Padé approximation based model-reduction techniques ☐
Peter Feldmann, Roland W. Freund
November 1997 **Proceedings of the 1997 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society
Full text available: pdf(484.17 KB)   Additional Information: full citation, abstract, references, citings, index
Publisher Site   terms

This paper introduces a new circuit noise analysis and modeling method. The noise analysis method computes an analytic expression of frequency, in rational form, which represents the Pad\'e approximation of the noise power spectral density. The approximation can be carried out efficiently, to the required accuracy, using a variant of the PVL~\cite{FelF95} or MPVL~\cite{FelF95b} algorithms. The new method is significantly more efficient than traditional methods for noise computation at numerous f ...

Keywords: circuit simulation, noise analysis, reduced-order modeling, Pade approximation, Lanczos process

16 Efficient AC and noise analysis of two-tone RF circuits ☐
Ricardo Telichevesky, Ken Kundert, Jacob White
June 1996 **Proceedings of the 33rd annual conference on Design automation**
Publisher: ACM Press
Full text available: pdf(253.02 KB)   Additional Information: full citation, references, citings, index terms

17 Noise-tolerant learning, the parity problem, and the statistical query model ☐
Avrim Blum, Adam Kalai, Hal Wasserman
July 2003 **Journal of the ACM (JACM)**, Volume 50 Issue 4
Publisher: ACM Press
Full text available: pdf(132.90 KB)   Additional Information: full citation, abstract, references, index terms

We describe a slightly subexponential time algorithm for learning parity functions in the presence of random classification noise, a problem closely related to several cryptographic and coding problems. Our algorithm runs in polynomial time for the case of parity functions that depend on only the first $O(\log n \log \log n)$ bits of input, which provides the first known instance of an efficient noise-tolerant algorithm for a concept class that is not learnable in the Statistical ...

Keywords: Computational learning theory, machine learning, statistical queries

18 Shared resource matrix methodology: an approach to identifying storage and timing ☐
channels
Richard A. Kemmerer
August 1983 **ACM Transactions on Computer Systems (TOCS)**, Volume 1 Issue 3

Publisher: ACM Press
Full text available: pdf(1.27 MB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>citings</u>, <u>index terms</u>

Keywords: confinement, covert channels, flow analysis, protection, storage channels, timing channels, validation

19 <u>Memory Matrix Using Ferroelectric Condensers as Bistable Elements</u>
Charles F. Pulvari
July 1955 **Journal of the ACM (JACM)**, Volume 2 Issue 3
Publisher: ACM Press
Full text available: pdf(2.36 MB)   Additional Information: <u>full citation</u>, <u>references</u>, <u>index terms</u>

20 <u>Crosstalk noise avoidance and power/ground network optimization: Successive pad assignment algorithm to optimize number and location of power supply pad using incremental matrix inversion</u>
Takashi Sato, Masanori Hashimoto, Hidetoshi Onodera
January 2005 **Proceedings of the 2005 conference on Asia South Pacific design automation ASP-DAC '05**
Publisher: ACM Press
Full text available: pdf(748.73 KB)   Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>

An efficient pad assignment algorithm to minimize voltage drop on a power distribution network is proposed. Combination of the successive pad assignment (SPA) and the incremental matrix inversion (IMI) provides an efficient assignment for both location and number of power supply pads. The SPA creates equivalent resistance matrix which preserves both pad candidates and power consumption points as external ports so that topological modification due to connection or disconnection between voltage so ...

Results 1 - 20 of 200   Result page: **1** <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>9</u> <u>10</u>   <u>next</u>

PORTAL

USPTO

THE ACM DIGITAL LIBRARY

Feedback Report a problem Satisfaction survey

Terms used
substrate **sentence** **coupling** and **noise** and **model** and **matrix** and **scalable** **sentence** **parameters**

Found
25,547 of
176,279

Sort results by | relevance ▽ |
Display results | expanded form ▽ |

● Save results to a Binder
? Search Tips
☐ Open results in a new window

Try an Advanced Search
Try this search in The ACM Guide

Results 1 - 20 of 200
Best 200 shown

Result page: **1** 2 3 4 5 6 7 8 9 10 next

Relevance scale ☐▣▤▪■

1 Substrate Noise Analysis with Compact Digital Noise Injection and Substrate Models

Makoto Nagata, Youichi Nishimori, Takashi Morie, Atsushi Iwata, Yoshitaka Murasaka
January 2002 **Proceedings of the 2002 conference on Asia South Pacific design automation/VLSI Design**
Publisher: IEEE Computer Society
Full text available: ⊡ pdf(512.69 KB)
⊡ Publisher Site

Additional Information: full citation, abstract

This paper presents a substrate noise analysis methodology that employs chip-level substrate modeling based on F-matrix computation and digital substrate-noise injection modeling with a time-series divided parasitic capacitance model for time-domain power-supply current estimation.System-level simulation models generated accordingly to the methodology provide reliable substrate noise waveforms.Simulated waveforms for practical digital circuits on a 0.6-μm CMOS 4.5-mm square chip are well consist ...

2 Noise-tolerant learning, the parity problem, and the statistical query model

Avrim Blum, Adam Kalai, Hal Wasserman
July 2003 **Journal of the ACM (JACM)**, Volume 50 Issue 4
Publisher: ACM Press
Full text available: ⊡ pdf(132.90 KB) Additional Information: full citation, abstract, references, index terms

We describe a slightly subexponential time algorithm for learning parity functions in the presence of random classification noise, a problem closely related to several cryptographic and coding problems. Our algorithm runs in polynomial time for the case of parity functions that depend on only the first $O(\log n \log \log n)$ bits of input, which provides the first known instance of an efficient noise-tolerant algorithm for a concept class that is not learnable in the Statistical ...

Keywords: Computational learning theory, machine learning, statistical queries

3 Circuit noise evaluation by Padé approximation based model-reduction techniques

Peter Feldmann, Roland W. Freund
November 1997 **Proceedings of the 1997 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society

Full text available: pdf(484.17 KB)   Additional Information: full citation, abstract, references, citings, index terms
Publisher Site

This paper introduces a new circuit noise analysis and modeling method. The noise analysis method computes an analytic expression of frequency, in rational form, which represents the Pad\'e approximation of the noise power spectral density. The approximation can be carried out efficiently, to the required accuracy, using a variant of the PVL~\cite{FelF95} or MPVL~\cite{FelF95b} algorithms. The new method is significantly more efficient than traditional methods for noise computation at numerous f ...

Keywords: circuit simulation, noise analysis, reduced-order modeling, Pade approximation, Lanczos process

4 Noise-tolerant learning, the parity problem, and the statistical query model

Avrim Blum, Adam Kalai, Hal Wasserman
May 2000 **Proceedings of the thirty-second annual ACM symposium on Theory of computing**
Publisher: ACM Press

Full text available: pdf(673.02 KB)   Additional Information: full citation, references, citings, index terms

5 Multiple-view geometry for image-based modeling

Jana Košecká, Yi Ma, Stefano Soatto, René Vidal
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**
Publisher: ACM Press

Full text available: pdf(23.14 MB)   Additional Information: full citation, abstract

This course presents the state of the art in multiple-view geometry, including methods and algorithms for reconstructing 3-D geometric models of scenes from video or photographs. This course is based on a novel approach to multiple-view geometry that only requires linear algebra, as opposed to more involved projective and algebraic geometry that most current methods employ. This new approach aims to make image-based modeling techniques accessible to a larger audience compared to existing ones. T ...

6 Estimation of parameters and eigenmodes of multivariate autoregressive models

Arnold Neumaier, Tapio Schneider
March 2001 **ACM Transactions on Mathematical Software (TOMS)**, Volume 27 Issue 1
Publisher: ACM Press

Full text available: pdf(195.87 KB)   Additional Information: full citation, abstract, references, citings, index terms

Dynamical characteristics of a complex system can often be inferred from analysis of a stochastic time series model fitted to observations of the system. Oscillations in geophysical systems, for example, are sometimes characterized by principal oscillation patterns, eigenmodes of estimated autoregressive (AR) models of first order. This paper describes the estimation of eigenmodes of AR models of arbitrary order. AR processes of any order can be decomposed into eigenmodes with characteristi ...

7 Traffic engineering: An information-theoretic approach to traffic matrix estimation

Yin Zhang, Matthew Roughan, Carsten Lund, David Donoho
August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications**
Publisher: ACM Press

Full text available: pdf(421.04 KB)   Additional Information: full citation, abstract, references, citings, index terms

Traffic matrices are required inputs for many IP network management tasks: for instance, capacity planning, traffic engineering and network reliability analysis. However, it is difficult to measure these matrices directly, and so there has been recent interest in inferring traffic matrices from link measurements and other more easily measured data. Typically, this inference problem is ill-posed, as it involves significantly more unknowns than data. Experience in many scientific and engineering f ...

Keywords: SNMP, information theory, minimum, mutual information, regularization, traffic engineering, traffic matrix estimation

8 Symbolic circuit-noise analysis and modeling with determinant decision diagrams

XiangDong Tan, C.-J. Richard Shi
January 2000 **Proceedings of the 2000 conference on Asia South Pacific design automation**
Publisher: ACM Press
Full text available: pdf(226.93 KB)   Additional Information: full citation, references

9 Global harmony: coupled noise analysis for full-chip RC interconnect networks

K. L. Shepard, V. Narayanan, P. C. Elmendorf, Gutuan Zheng
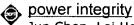November 1997 **Proceedings of the 1997 IEEE/ACM international conference on Computer-aided design**
Publisher: IEEE Computer Society
Full text available: pdf(238.78 KB)   Additional Information: full citation, abstract, references, citings, index
Publisher Site   terms

Noise is becoming one of the most important metrics in the design of VLSI systems, certainly of comparable importance to area, timing, and power. In this paper, we describe Global Harmony, a methodology for the analysis of coupling noise in the global interconnect of large VLSI chips, being developed for the design of high-performance microprocessors. The architecture of Global Harmony involves a careful combination of static noise analysis, static timing analysis, and reduced-order modelling te ...

Keywords: noise, static timing analysis, interconnect

10 Power and noise: Noise driven in-package decoupling capacitor optimization for power integrity

Jun Chen, Lei He
April 2006 **Proceedings of the 2006 international symposium on Physical design ISPD '06**
Publisher: ACM Press
Full text available: pdf(164.11 KB)   Additional Information: full citation, abstract, references, index terms

The existing decoupling capacitance optimization approaches meet constraints on input impedance for package. In this paper, we show that using impedance as constraints leads to large overdesign and then develop a noise driven optimization algorithm for decoupling capacitors in packages for power integrity. Our algorithm uses the simulated annealing algorithm to minimize the total cost of decoupling capacitors under the constraints of a worst case noise. The key enabler for efficient optimization ...

Keywords: IC package, decoupling capacitor, integrity, modeling, noise, power, power

distribution system, resonance

11 Noise Macromodel for Radio Frequency Integrated Circuits

Yang Xu, Xin Li, Peng Li, Lawrence Pileggi

March 2003 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 1 DATE '03**

Publisher: IEEE Computer Society

Full text available: pdf(216.67 KB)
Publisher Site

Additional Information: full citation, abstract, index terms

Noise performance is a critical analog and RF circuit design constraint, and can impact the selection of the IC system-level architecture. It is therefore imperative that some model of the noise is represented at the highest levels of abstraction during the design process. In this paper we propose a noise macromodel for analog circuits and demonstrate it by way of implementation in a system level simulator based on MATLAB. We also explain our process of macromodel extraction via reformulation of ...

12 Time-domain non-Monte Carlo noise simulation for nonlinear dynamic circuits with arbitrary excitations

Alper Demir, Edward W. Y. Liu, Alberto L. Sangiovanni-Vincentelli

November 1994 **Proceedings of the 1994 IEEE/ACM international conference on Computer-aided design**

Publisher: IEEE Computer Society Press

Full text available: pdf(840.83 KB)

Additional Information: full citation, abstract, references, citings, index terms

A new, time-domain, non-Monte Carlo method for computer simulation of electrical noise in nonlinear dynamic circuits with arbitrary excitations is presented. This time-domain noise simulation method is based on the results from the theory of stochastic differential equations. The noise simulation method is general in the sense that any nonlinear dynamic circuit with any kind of exci ...

13 Coupled noise estimation for distributed RC interconnect model

Janet M. Wang, Qingjian Yu, Ernest S. Kuh

January 1999 **Proceedings of the conference on Design, automation and test in Europe**

Publisher: ACM Press

Full text available: pdf(170.65 KB)   Additional Information: full citation, index terms

14 Modeling and simulation of the interference due to digital switching in mixed-signal ICs

Alper Demir, Peter Feldmann

November 1999 **Proceedings of the 1999 IEEE/ACM international conference on Computer-aided design**

Publisher: IEEE Press

Full text available: pdf(209.73 KB)

Additional Information: full citation, abstract, references, citings, index terms

The paper introduces a methodology for the evaluation of the interference noise, caused by digital switching activity, in sensitive circuits of a mixed-digital-analog chip. The digital switching activity is modeled stochastically as functions defined on Markov chains. The actual interference signal is obtained through the modulation of this discrete stochastic signal with real current injection patterns stored a priori in a pre-characterized library. The interference noise results from the ...

15 Session 6C: Markovian analysis and asynchronous circuits: Modeling and analysis of
communication circuit performance using Markov chains and efficient graph
representations
Alper Demir, Peter Feldmann
November 2000 **Proceedings of the 2000 IEEE/ACM international conference on
Computer-aided design**
Publisher: IEEE Press
Full text available: pdf(203.08 KB)   Additional Information: full citation, abstract, references

In high-speed data networks, the bit-error-rate specification on the system can be very
stringent, i.e., 10^{-14}. At such error rates, it is not feasible to evaluate the performance of a
design using straightforward, simulation based, approaches. Nevertheless performance
prediction before actual hardware is built is essential for the design process.This work
introduces a stochastic model and an analysis-based, non-Monte-Carlo method for
performance evaluation of digital data communicati ...

16 Stable and efficient reduction of substrate model networks using congruence
transforms
Kevin J. Kerns, Ivan L. Wemple, Andrew T. Yang
December 1995 **Proceedings of the 1995 IEEE/ACM international conference on
Computer-aided design**
Publisher: IEEE Computer Society
Full text available: pdf(143.55 KB)   Additional Information: full citation, abstract, references, citings, index
Publisher Site   terms

Parasitic analog-digital noise coupling has been identified as a key issue facing designers
of mixed-signal integrated circuits. In particular, signal cross talk through the common
chip substrate has become increasingly problematic. This paper demonstrates a new
methodology for developing simulation, synthesis, and verification models to analyze the
global electrical behavior of the non-ideal semiconductor substrate. RC substrate network
models, which are generated via a triangular discretizatio ...

Keywords: substrate noise, mixed-signal integrated circuits, voronoi tesselation, rc
network reduction, stability, congruence transform, pade approximation, lanczos process

17 Analysis and optimization of substrate noise coupling in single-chip RF transceiver
design
Adil Koukab, Kaustav Banerjee, Michel Declercq
November 2002 **Proceedings of the 2002 IEEE/ACM international conference on
Computer-aided design**
Publisher: ACM Press
Full text available: pdf(462.15 KB)   Additional Information: full citation, abstract, references, index terms

The relentless move toward single chip integration of RF, analog and digital blocks results
in significant noise coupling effects that can degrade performance and hence, should be
controlled. In this paper, we propose a practical methodology that uses a suite of
commercial tools in combination with a high-speed extractor based on an innovative semi-
analytical method to deal with noise coupling problems, and enable RF designers to
achieve a first silicon-success of their chips. The integration of ...

18 Inductance and substrate analysis: HSpeedEx: a high-speed extractor for substrate
noise analysis in complex mixed signal SOC
Adil Koukab, Catherine Dehollain, Michel Declercq
June 2002 **Proceedings of the 39th conference on Design automation**

Publisher: ACM Press

Full text available: pdf(289.07 KB)   Additional Information: full citation, abstract, references, citings, index terms

The unprecedented impact of noise coupling on Mixed-Signal Systems-On-a-Chip (MS-SOC) functionality, brings a new set of challenges for Electronics Design Automation (EDA) tool developers. In this paper, we propose a new approach which combines a thorough physical comprehension of the noise coupling effects with an improved Boundary-Element-Method (BEM) to accelerate the substrate model extraction and to avoid the dense matrix storage. The low computational efforts required, as well as speed and ...

Keywords: boundary-element-method, mixed-signal noise, noise, numerical analysis, substrate coupling, substrate noise, supply noise, switching circuits

19 Image Models

Narendra Ahuja, B. J. Schachter
December 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 4
Publisher: ACM Press
Full text available: pdf(2.99 MB)   Additional Information: full citation, references, citings, index terms

20 Interconnect extraction: CHIME: coupled hierarchical inductance model evaluation

Satrajit Gupta, Lawrence T. Pileggi
June 2004 **Proceedings of the 41st annual conference on Design automation**
Publisher: ACM Press
Full text available: pdf(167.77 KB)   Additional Information: full citation, abstract, references, index terms

Modeling inductive effects accurately and efficiently is a critical necessity for design verification of high performance integrated systems. While several techniques have been suggested to address this problem, they are mostly based on sparsification schemes for the L or L-inverse matrix. In this paper, we introduce CHIME, a methodology for non-local inductance modeling and simulation. CHIME is based on a hierarchical model of inductance that accounts for all inductive couplings at a linear cos ...

Keywords: circuit simulation, inductance modeling

Results 1 - 20 of 200   Result page: **1**   2   3   4   5   6   7   8   9   10   next